NWS CHANGE FORM
PART A

1. DATE SUBMITTED

~~10 April 2000~~
14 April 2000

This form is in three parts. Submitters must complete unshaded blocks in Part A and as much of Part B as possible. WSH will complete Part C (implementation details). If there is no specific required change date, enter 60 days from date submitted. Address questions to NWS Change Management at (301) 713-1373. Submit change requests to the NWSRC mailbox (External: NWSRC@noaa.gov).

2. ORIGINATOR OFFICE	3. SUBMITTING AUTHORITY	4. COGNIZANT TECHNICAL INDIVIDUAL	5. ORIGINATOR TRACKING NUMBER
W/APO	Name: Ward Seguin Routing Code: W/APO1	Name: Thuy Tran Routing Code: W/APO1 Phone: 301-713-0211x176	APO_A100050

6. SYSTEMS AFFECTED BY CHANGE

☐ DATA PRODUCTS (Complete Data Products Supplement)

☐ ASOS ☒ AWIPS ☐ CRS ☐ NEXRAD ☐ OTHER (specify) _____

7. WSH TRACKING NUMBER

NWS 583

8. TITLE OF CHANGE

AWIPS Software Version 4.3.1

9. TYPE OF CHANGE

☐ HARDWARE ☒ SOFTWARE ☐ DOCUMENTATION ONLY

10. SITES AFFECTED (Attach Part B, Page 2, if needed)

All sites

11. STATEMENT OF REQUIREMENT, PROBLEM, OR DEFICIENCY OF EXISTING SYSTEM (Include problem report reference numbers.)

Update AWIPS software and correct identified deficiencies

12. KNOWN OR PROPOSED SOLUTION (Include source and description of new features or data products.)

Release 4.3 provides for items/updates listed in attachment A. This includes a large number of DR corrections listed in attachment B. Additional DRs listed in attachment C were identified during the operational readiness mode and were corrected in Release 4.3.1 which will be distributed to the field. Pre-installation and installation instructions are given in Attachments D and E respectively.

13. ALTERNATE SOLUTIONS

None.

14. REQUIRED CHANGE DATE
10 April 2000

15. RATIONALE FOR REQUIRED CHANGE DATE (Include proposed priority, if known.)

To enable follow on software implementation to meet projected target dates.

CCB/PMC/CMB DECISION

16. DECISION AUTHORITY LEVEL	☐ CCB LEVEL ONLY	☐ PMC or NWS CMB DECISION REQUIRED
17. CCB LEVEL DECISION	☐ APPROVED ☐ RECOMMEND APPROVAL ☐ DISAPPROVED	SIGNATURE DATE SIGNED

FOR USE ONLY WHEN PMC or NWS CMB DECISION REQUIRED

18. PMC OR NWS CMB DECISION	☐ APPROVED ☐ DISAPPROVED	SIGNATURE DATE SIGNED

NWS CHANGE FORM
PART A - DATA PRODUCTS SUPPLEMENT

1. ORIGINATOR TRACKING NUMBER
APO_A100050

This information is required for Data Products submissions. (Submitters should complete all applicable blocks, if known. WSH will assist.) Attach extra pages if necessary.

2. WSH TRACKING NUMBER

3. AWIPS ID		4. AFOS PIL			5. WMO HEADER	6. ADD REV DEL	7. SEAS Y/N	8. CHAR PER MSG	9. FREQUENCY	10. NWSTG DISTR	11. AFOS DISTR	NWWS ONLY		
NNN	XXX	CCC	NNN	XXX								12. STATE CIRCUITS	13. PRIME UPLINK	14. B/U UPLINK
N/A														

FOR METAR CHANGES ONLY

15. COMMS ID		16. N. LATITUDE			17. W. LONGITUDE			18. ELEV (M)
		DEG	MIN	SEC	DEG	MIN	SEC	

19. INTERNAL NWS USE ONLY ☐

20. PRODUCT SOURCE

21. AWIPS DATA TYPE

22.	A. CHANGE NOTICE	B. EFFECTIVE DATE	C. ISSUE DATE
AWIPS			
AFOS			
NWWS			

NWS CHANGE FORM
PART B

1. ORIGINATOR TRACKING NUMBER

APO_A100050

All RC/ECP submissions must also address the following information. Indicate if any areas are unknown or do not apply. State why information is unknown and when it will be available. Attach extra pages if necessary, referencing each applicable subject.

2. WSH TRACKING NUMBER

NWS 583

FUNDING INFORMATION

Estimate costs and indicate known sources of funding. (Include travel time, installation time, administrative time, and software development time when applicable.)	3. SOURCE OF FUNDING	4. TOTAL COST
5. DEVELOPMENT COSTS (Estimate development costs) **********	KMOD _____ BASE	AMOUNT
6. OPERATIONAL TEST AND EVALUATION COSTS (Estimate test and evaluation costs) Included in Block 5.	BASE	AMOUNT $0
7. PRODUCTION COSTS (Include acquisition, kit proofing, spares, delivery, and documentation costs)	KMOD _____ BASE	AMOUNT See #5
8. COMMUNICATIONS SERVICE/CIRCUITS COSTS (Include installation and recurring costs) N/A		AMOUNT $0
9. IMPLEMENTATION SUPPORT COSTS (Include travel, installation, and administrative costs) Contractor (PRC) support Government Installation	KMOD _____ BASE	AMOUNT See #5
9A. LIFE CYCLE SUPPORT COSTS (Less communications service/circuits) Contractor (PRC) - NCF Operations	KMOD _____	AMOUNT Unknown

SUPPORTING INFORMATION AND SCHEDULES

Provide detailed information needed to implement the requested change.

10. DEVELOPMENT STATUS/SCHEDULE (Major milestones such as Start, Beta Test, and OT&E)
Development Start-, Completion-
4.3 - 4/1/99 1/24/2000
4.3.1 - 1/18/2000 4/3/2000

11. PRODUCTION STATUS/SCHEDULE (Major milestones such as Solicitation, Contract Start Date, Delivery Date, Kit Proofing, etc.)
Delivery - 4.3 2/7/2000
4.3.1 4/10/2000

12. IMPLEMENTATION/RETROFIT SCHEDULE
BCQ - 4/11/2000
EHU - 4/11/2000
CRP - 4/11/2000

13. FACILITY INFORMATION (Attach facility drawings/plans.)

N/A

14. COMMUNICATIONS INSTALLED (Type required, who will order, and associated hardware required; attach Part B, Page 2, if needed.)
N/A

15. COMMUNICATIONS SERVICE/CIRCUITS TO BE REMOVED
N/A

16. REQUIRED CLEARANCES, WAIVERS, AND LICENSES (Include person or organization responsible for obtaining each)
N/A

17. COORDINATION OF CHANGE WITH OTHER CHANGES
Requires AWIPS SW Ver 4.2.6 to be installed prior to implementation.

18. PHYSICAL ITEMS AND DOCUMENTS AFFECTED (Include part, serial, and document numbers. Attach Part B, Page 2, if needed.)
See Part B

19. STAFF RESOURCE IMPACTS (Skills and workload impact on maintainers, operators, and managers.)
No recurring workload impacts.

20. LOGISTICS IMPACTS (Include facilities, maintenance, training, and support equipment impacts.)
N/A

21. OPERATIONAL IMPACTS (Include continuity and back up needs and plans.)
Service backup during software installation required (less than one hour per site for installation).

22. ADDITIONAL MAJOR CHANGE ACTIVITIES (Include who will accomplish each of them and staff hours required.)

PRC will provide a CD with the SW and installation instructions to the sites. The SW is to be installed by site personnel IAW installation instructions. Installation will take less than one hour. NCF and SST will be available to sites requiring assistance. Site installation schedules will be established by AWIPS Regional Focal Points and the SST. Initial Operational Capability occurs at first site on 4/11/2000. Sites will report completion of installation via an ADM message to the NCF. All selected sites to implement change by 4/17/00.

NWS CHANGE FORM
PART B - PHYSICAL ITEM AND DOCUMENT IMPACT MATRIX SUPPLEMENT

1. ORIGINATOR TRACKING NUMBER

APO_A100050

This information is required prior to publication of Engineering Modification Notes and Software Release Notes. List physical items to be replaced and specify any changes in related documentation. (Submitters should complete this information, if known. WSH will assist.)

2. WSH TRACKING NUMBER

NWS 583

3. ITEM NAME, CIRCUIT TYPE, SOFTWARE VERSION, OR SITE LOCATION	4. REMOVE REPLACE MODIFY	5. SUPERSEDED ITEM OR CONFIGURATION		6. SUPERSEDING PART NUMBER OR NEW CONFIGURATION	7. DOC TYPE	8. SUPERSEDED DOCUMENT		9. SUPERSEDING DOCUMENT	
		A. PART NUMBER OR	B. SERIAL NUMBER(S) OR			A. IDENTIFIER	B.	A.	B. REV
AWIPS Software	Replace	Version 4.2.6		Version 4.3.1	Software Listing	Release 4.2.6	12/00	Rel 4.3.1	4/00
					Release Notes	R4.2..6	12/00	R4.3.1	4/00

NWS CHANGE FORM
PART C

1. ORIGINATOR TRACKING NUMBER

APO_A100050

WSH is responsible for Part C, but submitters may complete sections that would help clarify the change requirement or the necessary implementation actions.

2. WSH TRACKING NUMBER

NWS 583

3. CCB COST EVALUATION

NWS COST FAA COST $ DOD COST $ OTHER AGENCY COST $ (SPECIFY)_____ TOTAL COST See Part B

4. IMPLEMENTATION DOCUMENTS REQUIRED

☐ Engineering Modification Note ☐ Software Release Notes Other Document (Specify)_____

ADDITIONAL IMPLEMENTATION INSTRUCTIONS (e.g., Implementation schedule, parts shipping instructions, equipment disposal procedures, additional documentation required, and status reporting instructions.) Include documentation, data input, notification vehicle, or specific action step required to verify completion of the implementation activity.

5. IMPLEMENTATION ACTIVITY REQUIRED	**10 April 00**	**7. RESPONSIBLE PERSON AND OFFICE**	**8. DOCUMENT OR ACTION REQUIRED TO VERIFY COMPLETION**
A. Coordinate implementation schedule with field offices through AWIPS Regional Focal Points	10 April 2000	Thigpen/SST W/APO3	N/A
B. Train NCF staff on the new software capabilities, installation procedures, and trouble shooting procedures	10 April 2000	TBD,PRC	N/A
C. Release SW Listing following NWS CCB approval to do so.	10 April 2000	TBD,PRC	NWS Contr. Off.
D. Release AWIPS SW ver 4.3.1 to the NCF and NWS CM (W/OSO113) as directed by APO.	10 April 2000	TBD,PRC	Notify Gillespie, W/OSO112
E. Release SW to sites IAW approved schedule.	11 April 2000	PRC	Ref Item H.
F. Report completion of installation via ADM message to NCF.	17 April 2000	Site ESA	N/A
G. Audit sites for completion of installation and notify W/OSO112 of status by site weekly (ending 15 Dec 99)	28 April 2000	Thigpen/SST, W/APO3	N/A
H. Report implementation completion (by region) using NCF/SST data at AWIPS CCB meetings (final report 16 Dec 99)	11 May 2000	Davidson, W/OSO112	N/A

Attachment A

Release 4.3 Contents

1. Upgraded COTS - Measureware
2. Some public domain software upgrades
3. Routine program updates for for WHFS/NWSRFS, WFOA, ICWF, and LAPS
4. LDAD logging changes , plot file removal
5. Implement “smart” localization
6. Tabular State Forecast Product generation
7. Dual NOAA Weather Wire service interfaces
8. Asynchronous Product Schedular (APS) updates
9. Fixes for 276 DRs
10. 4.NCF-3
    - MHS throughput improvements, messages retry, message time-to-live
    - Internet server
    - DS MC/ServiceGuard Cluster reconfiguration

Use URL below for Attachment B:
http://www.nws.noaa.gov/oso/oso1/oso11/oso112/awips/rcfiles/nws583ab.htm

Use URL below for Attachment C:
http://www.nws.noaa.gov/oso/oso1/oso11/oso112/awips/rcfiles/nws583ac.htm

Instructions to Run "allow_ping.sh" Script

This is one of the R4.3.1 pre-install requirements

Introduction

Before you do the R4.3.1 upgrade you must run the procedures listed in **Part 0, step 4**. One of these procedures allows you to run "allow_ping.sh" script which makes it possible for the NCF to Ping the LDAD firewall. The original R4.2.3 post installation setup instruction is procedure 5.0, below. If you already ran it and verified that it works (see Part 0, step 4C), you do not need to run it again.

If you need to run it and are not able to find the "R4.2.3 CD", you can run the 5.0* version, instead. The latter procedure allows you to obtain the "allow_ping.sh" script from the NOAA1 server before executing the procedure.

The two procedures included in this appendix are:

5.0 Instructions to Run "allow_ping.sh" to Allow NCF to Ping the LDAD Firewall (Needs R4.2.3 CD)

5.0* Instructions to Run "allow_ping.sh" to Allow NCF to Ping the LDAD Firewall (Doesn't need R4.2.3 CD)

If you have any problems relating to these instructions, call the NCF.

5.0 Instructions to Run "allow_ping.sh" to Allow NCF to Ping the LDAD Firewall (uses R4.2.3 CD)

Below are the original R4.2.3 instructions created 8/19/99. It uses the R4.2.3 CD to obtain the "allow_ping.sh" script.

1. Start a telnet window on a workstation and login in as root. From the telnet window, use the rlogin command to log into DS1 as root:

   ```
   rlogin ds1 -l root
   ```

2. Insert the 4.2.3 CD into the CD-ROM drive **on DS1.**

   Verify that the /cdrom directory exists:
   ```
   ll /cdrom
   ```

   If it does not exist, type:
   ```
   mkdir /cdrom
   ```

3. Mount the CD-ROM in the root directory on DS1:

   Enter **one** of the following commands:

   For K class data servers:
   ```
   mount /dev/dsk/c3t2d0 /cdrom
   ```

   For D class data servers:
   ```
   mount /dev/dsk/c1t2d0 /cdrom
   ```

   NOTE: If the mount commands don't work, insert another CD into the reader and check the drive using the appropriate "mount" command. If this doesn't work, call the NCF.

4. Get the IP address of DS1 from the "**/etc/hosts**" file on DS1.

5. From the **System Console terminal** with the "AWIPS Main Menu", connect to the firewall and login as root by doing the following:

   Enter "**q**"
   Press **<Ener>** key
   Press **<Enter>** key
   Enter "**Connect xyplex1:5800**" (i.e. xyplex<one>:5800)
   Login as root

6. On the System Console terminal, change to the "/etc/scripts" directory by entering:

   ```
   cd /etc/scripts
   ```

7. On the System Console terminal, get the firewall modification script "**allow_ping.sh**" from the DS1 via "ftp", by entering:

`ftp  <IP address of DS1>`
(Enter user name as **root** and its password)

`cd /cdrom`

`get allow_ping.sh`

`bye`

8. On the System Console terminal, run the modification script :

   `chmod 544 allow_ping.sh`

   `./allow_ping.sh`

9. Ensure that the firewall server does **NOT** have a keyboard attach to it. If this case is ensured, on the System Console terminal, reboot the firewall server by entering:

   `reboot`

   NOTE: Watch the firewall server to reboot. It will take about 3 minutes. After reboot, the firewall server will display a login to the console port.

   NOTE: If the firewall server was rebooted with a keyboard attached to it, the firewall server will require an attached keyboard for next reboot. The site may not want this to happen.

10. Restore the System Console terminal back to normal by doing the following:

    Press <**Break**> key
    Enter **"disconnect all"**
    Enter **"logout"**
    After a few seconds, press <**Enter**> key and then enter a user name.
    Enter "**t**" to return to the root "AWIPS Main Menu"

11. On the telnet window, un-mount the Release 4.2.3 install CD, type:

    `cd /`

    `fuser -k /cdrom` **(Note: Be careful to type this command correctly! "`/cdrom`" is one word!)**

    `umount /cdrom`

    Remove the Release 4.2.3 CD.

12. Exit DS1 by entering:

    `exit`

5.0* Instructions to Run "allow_ping.sh" to Allow NCF to Ping the LDAD Firewall (gets script from NOAA1 server.)

Below is a slight modification of the original R4.2.3 instructions. The following instructions obtain the "allow_ping.sh" script from the NOAA1 server. You can run this procedure if you have not already run procedure 5.0, which used the R4.2.3 CD.

1. Start a telnet window on a workstation and login in as root. From the telnet window, use the rlogin command to log into DS1 as root:

   `rlogin ds1 -l root`

2. Get the IP address of DS1 from the "**/etc/hosts**" file on DS1.

3 From the **System Console terminal** with the "AWIPS Main Menu", connect to the firewall and login as root by doing the following:

   Enter "**q**"
   Press **<Ener>** key
   Press **<Enter>** key
   Enter "**Connect xyplex1:5800**" (i.e. xyplex<one>:5800)
   Login as root

4. Change to the "/etc/scripts" directory by entering the command:

   `cd /etc/scripts`

5. Connect to the NOAA1 ftp server by entering the command:

   `ftp 165.92.30.15`

   Once you are connected to the NOAA1 ftp server, login as **`ftp`** user with a password of **`4AWIPS!`**

6. Get the "allow_ping.sh" file by entering the commands:

   `binary`

   `cd /cdrom`

   `get allow_ping.sh`

   `bye`

7. On the System Console terminal, run the modification script :

   `chmod 544 allow_ping.sh`

```
./allow_ping.sh
```

8. Ensure that the firewall server does **NOT** have a keyboard attach to it. If this case is ensured, on the System Console terminal, reboot the firewall server by entering:

   ```
   reboot
   ```

   NOTE: Watch the firewall server to reboot. It will take about 3 minutes. After reboot, the firewall server will display a login to the console port.

   NOTE: If the firewall server was rebooted with a keyboard attached to it, the firewall server will require an attached keyboard for next reboot. The site may not want this to happen.

9. Restore the System Console terminal back to normal by doing the following:

   Press **<Break>** key
   Enter **"disconnect all"**
   Enter **"logout"**
   After a few seconds, press **<Enter>** key and then enter a user name.
   Enter "**t**" to return to the root "AWIPS Main Menu"

10. Exit DS1 by entering: `exit`

Attachment E
Install Instructions for AWIPS Release 4.3.1

Please Call the NCF before you install R4.3.1

PLEASE READ ENTIRE DOCUMENT BEFORE BEGINNING INSTALLATION!

Perform the Pre-installation Requirements in advance of the R4.3.1 upgrade.

On the day of the install, call the NCF and tell them you are doing the R4.3.1 upgrade; give them the **version date** of the installation instructions you are using. Coordinate with your service backup sites, as needed.

The R4.3.1 install will take 7 to 9 hours to complete depending on the number of workstations and number of radars in use that your AWIPS system has.

NOTE 1: **No data ingest time will be about 3.0 hours**.

NOTE 2: Although it will take up to 9 hours to fully complete the R4.3.1 install, the system (except for OH and LDAD functions) will be available to use in 4 hours after the installation is started. (See PART 5, steps 2 to 4, on page 5-1.)

NOTE 3: After-Install Setup Procedures (PART 8 on page 8-1) must be run at all sites as part of the R4.3.1 upgrade. These include the following:

A. Creating Radar Mosaics,
B. Verify HWR NWR Products and Climate Products Setup,
C. Merge/Update of Internal LDAD Files, and
D. Merge of WarnGen "preWWA(B) Files.
E. Disable NCF's ability to ping the LDAD firewall and disable SMTP on firewall

Until Procedures "C" and "D" are completed, sites may find that the LDAD and WarnGen functionality will operate with default configurations which may not be operationally acceptable to the sites. Consequently, we suggest that the R4.3.1 installer reviews these procedures ahead of time to ensure some site personnel with a level of knowledge can perform them in PART 8.

NOTE 4: DO **NOT** use <CTL-C> to stop the installation scripts during the installation.

NOTE 5: DO **NOT** PROCEED if any unexpected problems are encountered. Instead, contact the NCF immediately **before** taking any action.

Part 0: Pre-installation Requirements (do several days before R4.3.1 upgrade)

Important Note: Read and perform the activities indicated on pages 2 through 6 up to several days before you do the R4.3.1 upgrade.

1. At least, Release 4.2.3 has been installed.

2. Verify the system is in "normal" operations with no “dsswap” package failed over. If you run into a problem, call the NCF.

```
cmviewcl
```

NOTE: Please see PART 1, step 3, on page 1-1 for detailed results.

3. Verify the system has appropriate percentage of disk space available on each server and workstation before you perform the R4.3.1 install:

A. On the DS1, DS2, AS1, AS2, and all workstations:

“/awips/fxa” file system should be no more than 90% used;
“/awips/hydroapps” file system should be no more than 80% used;
“/awips/adapt” file system should be no more than 90% used (Not in RFC);

To do this, run the following and verify the “%used disk space” from the output:

```
for i in ds1 ds2 as1 as2 $WORKSTATIONS
> do
> echo ---$i–
> remsh $i “bdf | grep awips”
> done
```

B. On the LS1:

“/var” file system should be no more than 90% used;
“/ldad” file system should be no more than 75% used;

To do this, run the following and verify the “%used disk space” from the output:

```
remsh ls1 “bdf /var /ldad”
```

NOTE: Please see PART 1, step 4, on page 1-1 and 1-2 for detailed explanation of results.

4. The sites have completed the following post install setup procedures (as defined in the R4.2.2 and R4.2.3 installation packages):

A. Radar Archive Setup Procedures (Procedure 2 of the R4.2.2 Post Install Setup)

B. Tune Up the OH WHFS Database (Procedure 9 of the R4.2.3 Post Install Setup)

C. Instructions to Run “allow_ping.sh” to Allow NCF to Ping the LDAD Firewall
(Procedure 5 of the R4.2.3 Post Install Setup)

NOTE: **Item C is required by the R4.3.1 installation. Without it, your R4.3.1 installation will not work.**

NOTE: **Procedure 5 can also be found in APPENDIX B *Instructions to Run "allow_ping.sh" Script*. If you can't find the R4.2.3 CD, run Procedure 5.0* which is found in the same appendix.**

To ensure that procedure 5 (or 5*) was run correctly and that "allow_ping.sh" has been installed and run, please verify this on DS1 by entering the following:

```
ping ls1
```

If it works, the system shall continuously respond with the following messages:

PING ls1-<siteid>: 64 byte packets
64 bytes from 140.90.91.200: icmp_seq=0. time=1. ms
64 bytes from 140.90.91.200: icmp_seq=1. time=1. ms

Press <CTRL-C> to stop the ping command and continue. If it failed, please retrieve your R4.2.3 Installation Package and follow the Procedure 5 of the R4.2.3 Post Install Setup to install "allow_ping.sh".

Please contact the NCF if you run into any problems.

5. Release 4.3.1 CD's (2 for both WFO and RFC) have arrived at the site.

6. The Informix triggers will be recreated during the localization process, therefore, the site changes made to the Informix triggers will be lost. This means:

Changes to "/awips/fxa/informix/fxatextTriggerActions.txt" will be LOST!

Therefore, before the R4.3.1 installation, in order to preserve these changes, the sites need to place them in the appropriate SiteConfig files and siteTrigger template file where LLL is the site ID in capital letters (e.g. LWX, EAX):

/awips/fxa/data/localization/LLL/LLL-ldadSiteConfig.txt,
/awips/fxa/data/localization/LLL/LLL-hydroSiteConfig.txt,
/awips/fxa/data/localization/LLL/LLL-adaptSiteConfig.txt,
/data/fxa/siteConfig/textApps/siteTrigger.template

The R4.3.1 localization process will use the above SiteConfig files and siteTrigger template file (with changes) to recreate the new "/awips/fxa/informix/fxatextTriggerActions.txt" file without loss of previous changes.

7. **Before the R4.3.1 installation,** the site needs to save the following files if modified since the R4.2.2 upgrade: "wwa*.preWWA" files and "wwa*.preWWAB" files in both the "/data/fxa/nationalData" and "/data/fxa/customFiles" directories. To do this:

(A) Login the DS1 as root

(B) Change to "/data/fxa/nationalData" or "/data/fxa/customFiles" directory, enter:

```
cd /data/fxa/nationalData
```
or
```
cd /data/fxa/customFiles
```

(C) Copy the modified "wwa*.preWWA" and "wwa*.preWWAB" files to new files with a "R42" extension tagged to the original file name, enter

```
cp  <file>  <file.R42>
```

For example, use the following command to save a modified "wwa_tor.preWWA" file:

```
cp  wwa_tor.preWWA  wwa_tor.preWWA.R42
```

The changes made in these "wwa*.preWWA" and "wwa*.preWWAB" files prior to the R4.3.1 build need to be **manually merged (see PART 8, step 4, on page 8-4)** to new "wwa*.preWWA" files delivered by the R4.3.1 build. This will be done Part 8.

NOTE: One change in "WarnGen" for the R4.3.1 build is that it will no longer support the option of templates in the old SRWARN format, so the system will no longer make any use of "wwa*.preWWAB" files. All WarnGen pre-templates will be "wwa*.preWWA" files.

8. The following **National Data Files** used in the R4.2 build will be **updated** by the R4.3.1 install: (File items 9 through 17 may not exist on the R4.2 system. If that is the case on your system, please ignore them.)

(1) /data/fxa/nationalData/afosMasterPIL.txt
(2) /data/fxa/nationalData/dataInfo.manual
(3) /data/fxa/nationalData/depictInfo.manual
(4) /data/fxa/nationalData/fsl-w88d.bdf
(5) /data/fxa/nationalData/fsl-w88d.shp
(6) /data/fxa/nationalData/fsl-w88d.shx
(7) /data/fxa/nationalData/ispan_table.template
(8) /data/fxa/nationalData/productButtonInfo.txt
(9) /data/fxa/nationalData/raobDataKeys.txt
(10) /data/fxa/nationalData/raob.goodness
(11) /data/fxa/nationalData/raobDepictKeys.txt
(12) /data/fxa/nationalData/raobProductButtons.txt
(13) /data/fxa/nationalData/raobMenus.txt
(14) /data/fxa/nationalData/twebAnchors.dbf
(15) /data/fxa/nationalData/twebRoutes.dbf
(16) /data/fxa/nationalData/twebRoutes.shp
(17) /data/fxa/nationalData/twebRoutes.shx
(18) /awips/fxa/data/collective_table.dat
(19) /awips/fxa/data/raobStationInfo.txt
(20) /awips/fxa/data/station_table.dat
(21) /data/fxa/nationalData/redbookSurfaceMenus.txt
(22) /data/fxa/nationalData/redbookProductButtons.txt
(23) /data/fxa/nationalData/redbookDepictKeys.txt
(24) /data/fxa/nationalData/redbookDataKeys.txt

Changes made to these files prior to the R4.3.1 install that have not been reported to the AWIPS National Datasets Maintenance (awipsndm) listserver and edited into the appropriate file at WSH will be LOST! If needed, the site should save these modified files before the R4.3.1 installation and email any unreported changes to

"awipsndm@infolist.nws.noaa.gov". To save files, do the following:

(A) Login the DS1 as root

(B) Change to "/data/fxa/nationalData", or "/awips/fxa/data" directory by entering:

```
cd /data/fxa/nationalData
```
or
```
cd /awips/fxa/data
```

(C) Copy the modified national data files to new files with a "R42" extension tagged to the original file name, by entering:

```
cp  <file>  <file.R42>
```

For example, use the following command to save the modified "dataInfo.manual" file:

```
cp  dataInfo.manual  dataInfo.manual.R42
```

NOTE: The R4.2 version and R4.3.1 version of the national data files mentioned here may have different file formats. R4.3.1 software will only work with the R4.3.1 versions of national data files. Therefore, after the R4.3.1 installation, please **DO NOT** replace any of these national data files with their R4.2 version of files.

NOTE: In R4.3.1, the file sizes of the following three national data files are greatly reduced. This is because the raob related data was physically removed and placed in different files.

/data/fxa/nationalData/dataInfo.manual
/data/fxa/nationalData/depictInfo.manual
/data/fxa/nationalData/productButtonInfo.txt

9. If disabling the SMTP on the LDAD firewall is an issue for your site....contact your AWIPS Regional Focal Point to discuss it before you perform the R4.3.1 upgrade.

Automatic File Backup and Restore Information:

The following is important file backup and restoration information which you should review several days before the R4.3.1 install.

1. In **PART 2**, Install Release 4.3.1 LDAD Software:

   A. **On the internal LDAD side (on the DS1 and AS1):**

      (1) The following internal R4.2 LDAD directories on the DS1 and AS1:

      "/awips/fxa/ldad/bin" on the DS1,
      "/awips/fxa/ldad/data" on the DS1, and
      "/awips/fxa/htdocs/ldadMon/conf" on the AS1

      will be **automatically saved** to "/data/fxa/LDAD_TEMP42" on the DS1 which is a NFS mount directory.

      (2) On the DS1, the following existing R4.2 LDAD files will be automatically saved and restored:

      "/awips/fxa/ldad/data/*Station.txt"
      "/awips/fxa/ldad/data/*.desc"
      "/awips/fxa/ldad/data/*sess*"

   B. **On the external LDAD side (on the LS1)**:

      (1) **On the LS1**, entire "/ldad" directory will be automatically backed up to

      `/data/ldad/BACKUP42/LDAD42-<MMDDYY>.tar`

      where <MMDDYY> is the installation date, (e.g., LDAD42-050699.tar).

      (2) **On the LS1**, the R4.2 LDAD crontab ("ls1:/var/spool/cron/crontabs/ldad") will be automatically saved to:

      `/data/ldad/BACKUP42/ldad42.crontab`

      (3) **On the LS1**, the following files will be automatically saved and restored:

      /data/ldad/public/sysop.address
      /ldad/data/tmenu.mb
      /ldad/.environs
      /ldad/data/ldd.conf
      /ldad/data/lda.conf
      /ldad/data/siteId.txt
      /ldad/data/ROSAsiteInfo.txt
      /ldad/data/*Station.txt

2. In **PART 3**, Release 4.3.1 Pre-install, on the DS1, DS2, AS1, AS2, the following five crontab files will be automatically backed up to the "/var/spool/cron/contabsR4.2" directory of each own server:

   /var/spool/cron/crontabs/informix /var/spool/cron/crontabs/ifps
   /var/spool/cron/crontabs/ldad /var/spool/cron/crontabs/root

/var/spool/cron/crontabs/oper

3. In **PART 4**, Install Release 4.3.1 ADAPT Software, the following six IFPS sub-directories on the DS1 will be automatically backed up to "/awips/adapt/ifps/backup/*" directories:

   /awips/adapt/ifps/Xdefaults /awips/adapt/ifps/bin
   /awips/adapt/ifps/crontab /awips/adapt/ifps/data
   /awips/adapt/ifps/database /awips/adapt/ifps/eval

4. In **PART 5**, Install Release 4.3.1 FXA/System Software, the existing "/usr/x400mail/mtalist" file will be automatically saved to:

   "/usr/x400mail/mtalistR4.2.3"

1. In **PART 6**, Install Release 4.3.1 OH Software, the following two R4.2 files:

   "/awips/hydroapps/whfs/local/bin/whfs_crontab" and
   "/awips/hydroapps/whfs/local/data/apps/metar2shef/metar.cfg"

   will be automatically saved to:

   "/awips/hydroapps/whfs/local/bin/whfs_crontab.R42"
   "/awips/hydroapps/whfs/local/data/metar2shef/metar.cfg.R42"

PART 1: Preparing the System for Release 4.3.1 Install

Parts 1 through 11 should be done on the day of the R4.3.1 upgradel.

1. Call the NCF to tell them that you will perform the R4.3.1 upgrade. As needed, call your service backup sites.

   Next, terminate and exit all D2D sessions and AWIPS applications on all graphic and text workstations.

2. From a graphic workstation, start a telnet window and login as root. **All commands to follow are executed from the DS1 as root.**

   From the telnet window, use the rlogin command to log into the DS1 by entering the following command:

   ```
   rlogin ds1 -l root
   ```

3. Verify the system is in "normal" operations with no “dsswap” package failed over. If you run into a problem, call the NCF.

   ```
   cmviewcl
   ```

   NOTE: Output should be as follows: (The “dsswap” package should be up and running on ds1-<site>, where <site

```
CLUSTER      STATUS
awips        up

NODE         STATUS       STATE
ds1-<site>   up           running

PACKAGE      STATUS       STATE        PKG_SWITCH   NODE
dsswap       up           running      enabled      ds1-<site>

NODE         STATUS       STATE
ds2-<site>   up           running
as1-<site>   up           running

PACKAGE      STATUS       STATE        PKG_SWITCH   NODE
as1swap      up           running      enabled      as1-<site>

NODE         STATUS       STATE
as2-<site>   up           running

PACKAGE      STATUS       STATE        PKG_SWITCH   NODE
as2swap      up           running      enabled      as2-<site>
```

4. Verify the system has appropriate percentage of disk space available on each server and workstation before you perform the R4.3.1 install:

   A. On the DS1, DS2, AS1, AS2, and all workstations:

   “/awips/fxa” file system should be no more than 90% used;
   “/awips/hydroapps” file system should be no more than 80% used;
   “/awips/adapt” file system should be no more than 90% used;

   To do this, run the following and verify the “%used disk space” from the output:

```
for i in ds1 ds2 as1 as2 $WORKSTATIONS
> do
> echo ---$i---
> remsh $i "bdf | grep awips"
> done
```

NOTE: Sample output from a server or a workstation should be as follows:

Filesystem	kbytes	used	avail	%used	Mounted on
/dev/vg01/lvol5	409600	311174	92357	77%	/awips/fxa
/dev/vg02/lvol3	307200	222970	82513	73%	/awips/hydroapps
/dev/vg02/lvol4	737280	649346	82714	89%	/awips/adapt

If the percentage in the fifth column (%used) is larger than the proposed percentages, please check all their subdirectories and delete unused files.

B. On the LS1:

"/var" file system should be no more than 90% used;
"/ldad" file system should be no more than 90% used;

To do this, run the following and verify the "%used disk space" from the output:

```
remsh ls1 "bdf  /var  /ldad"
```

NOTE: Sample output from the LS1 should be as follows:

Filesystem	kbytes	used	avail	%used	Mounted on
/dev/vg00/lvol6	307200	195501	104767	65%	/var
/dev/vg00/lvol9	122880	90201	30651	75%	/ldad

If the percentage in the fifth column (%used) is larger than the proposed percentages, please check all their subdirectories and delete unused files.

If you have problems getting the %used disk space lower than the proposed percentages, please call the NCF.

5. Verify that the LDAD server and workstations are accessible. To check for this, run the following:

```
for i in ls1 $WORKSTATIONS
> do
> remsh $i hostname
> done
```

Response should be: *ls1-<site>, ws1-<site>, ws2-<site>, etc.*

NOTE: If you don't see the LDAD server or workstations responding, please check the non-responding systems. If you run into a problem, call the NCF.

6. Verify that the LDAD can be pinged from the DS1. To check this, on the DS1, type:

```
ping ls1
```

If it works, the system shall continuously respond with the following messages:

PING ls1-<siteid>: 64 byte packets
64 bytes from 140.90.91.200: icmp_seq=0. time=1. ms
64 bytes from 140.90.91.200: icmp_seq=1. time=1. ms

Press <CTRL-C> to stop the ping command and continue. If it failed, please read the NOTE discussed page 3.

7. Verify that at least the R4.2.3 has been installed:

```
cat /awips/Release_ID
```

NOTE: Output should be: **4.2.3, 4.2.4, 4.2.5, or 4.2.6**. If you did not see any of these results, please contact the NCF.

8. Verify that the site is localized correctly:

```
su - fxa                        /* switch to fxa user */
echo $SITE_TYPE                 /* site type, e.g. wfo or rfc */
echo $FXA_LOCAL_SITE            /* siteID in upper case, e.g. LWX */
echo $FXA_INGEST_SITE           /* siteID in upper case, e.g. LWX */
echo $FXA_LOCAL_TZ              /* time zone, e.g. EST5EDT */
echo $NODE          /* $NODE is defined at WFO, but not at RFC,
                       e.g. WBC, BHM */
exit                            /* return as root */
```

Also, verify that the proper Satellite feed is set up correctly by entering: (where LLL is the siteID in capital, e.g. LWX, EAX)

```
cd /awips/fxa/data/localizationDataSets/LLL
cat whichSat.txt
```

If you run into a problem, call the NCF.

9. Verify that the following file has no lines longer than 80 characters: (where LLL is your site ID in capital, e.g. LWX. EAX, etc.)

/awips/fxa/data/localization/LLL/LLL-hydroSiteConfig.txt

If a line has more than 80 characters, it needs to be broken up into multiple lines. Line continuation will not work, i.e. each line should have its own entity.

10. The "/etc/fstab" file on each server and workstation should **not** have any entry for "/cdrom" setup. If you see "**/cdrom**" (see next line):

/dev/dsk/c1t1d0 **/cdrom** cdfe r0 suid 0 0

then you will need to **remove** the line with "/cdrom" in it. See A and B, below.

A. To check for this problem on servers and workstations, run the following:

```
for i in ds1 ds2 as1 as2 ls1 $WORKSTATIONS
> do
> echo ---$i –
> remsh $i "grep cdrom /etc/fstab"
> done
```

B. Remove the lines containing "/cdrom" entries discovered in A.

11. If your site has switched to AWIPS Operational Mode (AOM) and has installed the "NWWS exclude patch", use the following commands to save the "**site-unique**" NWWS product exclusion list file: (where <site> is your site ID in upper case, e.g. LWX, EAX)

```
cd /data/fxa/workFiles/wanMsgHandling

cp -p  NWWS_exclude_<site>.txt  NWWS_exclude_<site>.txt.R42
```

NOTE: The "NWWS exclude patch" includes two script files ("handleOUP.pl" and "textWan.tcl"), and one configuration file ("NWWS_exclude_<site>.txt"). Since both "handleOUP.pl" and "textWan.tcl" scripts will be re-installed as part of R4.3.1 baseline, there is no need to save them here.

12. Download the latest version of national data files from the NOAA1 Server:

A. Change to the "/awips/fxa/data" directory on DS1:

```
cd /awips/fxa/data
```

B. Connect to the NOAA1 ftp server by entering the command:

```
ftp 165.92.30.15
```

Once you are connected to the NOAA1 ftp server, login as **ftp** user with a password of **4AWIPS!**

C. Get the national data files from NOAA1 ftp server by entering the commands:

```
binary

hash

cd /awips/fxa/data

get selsAnchors.txt

get wmoSiteInfo.txt

get afos_lookup_table.dat

get metarStationInfo.txt

bye
```

13. Mount the “ADAPT, LDAD, SITE SPECIFIC” CD on the DS1:

Insert the Release 4.3.1 CD into the CD-ROM drive on the DS1 and run the following command:

For K class server:

```
mount  /dev/dsk/c3t2d0 /cdrom
```

For D class server:

```
mount /dev/dsk/c1t2d0 /cdrom
```

14. Run the “prepareR4.3" script: (Sample output and error information are shown in Appendix A, page A1-1.)

```
cd /cdrom

script -a /home/ncfuser/prepare43.out

./prepareR4.3

./stopscript
```

NOTE: This step can take from 2 to 5 minutes. This will remove some old partitions and clean up the “/dev/vg02" partition.

15. After the script ends, review the script output file, “/home/ncfuser/prepare43.out”, to ensure that no unexpected errors (such as “fail”, “error”) were encountered during the installation.

If no errors occurred proceed to PART 2, otherwise contact the NCF.

PART 2: Install Release 4.3.1 LDAD Software

Automatically Saved and Restored Internal LDAD Files:

1. The following internal R4.2 LDAD directories on the DS1 and AS1:

   "/awips/fxa/ldad/bin" on the DS1,
   "/awips/fxa/ldad/data" on the DS1, and
   "/awips/fxa/htdocs/ldadMon/conf" on the AS1

   will be **automatically** saved to "/data/fxa/LDAD_TEMP42" on the DS1 which is a NFS mount directory.

2. The following R4.2 LDAD files **on the DS1** will be **automatically** restored:

   "/awips/fxa/ldad/data/*Station.txt"
   "/awips/fxa/ldad/data/*.desc"
   "/awips/fxa/ldad/data/*sess*"

NOTE: On the DS1, new baseline "*Station.txt", "*.desc", and "*sess*" files that are being delivered with AWIPS R4.3.1 will be tagged with "R4.3 baseline" extension, e.g. "<filename>.43bsln" to distinguish them from the R4.2 version files. For example, LARC.desc, LARCStation.txt, and xmtest_coll_sess are restored R4.2 version files; while LARC.desc.43bsln, LARCStation.txt.43bsln, and xmtest_coll_sess.43bsln are new R4.3.1 version baseline files.

Automatically Saved and Restored External LDAD Files:

1. **On the LS1,** entire "/ldad" directory will be **automatically** backed up to

   `/data/ldad/BACKUP42/LDAD42-<MMDDYY>.tar`

   where <MMDDYY> is the installation date, (e.g., LDAD42-050699.tar).

   If necessary after the entire install is completed, the sites can use the following commands to restore files:

```
su - ldad
  cd /
  tar  -xvf  <tar_file>  <file_path>
```

(For example, to restore */ldad/data/tmenu.mb* from */data/ldad/LDAD42-050699.tar* type the following:

tar -xvf /data/ldad/BACKUP42/LDAD42-050699.tar ldad/data/tmenu.mb

where <file_path> can be found by typing:
tar -tvf /data/ldad/BACKUP42/LDAD42-050699.tar | grep tmenu.mb)

2. **On the LS1**, the R4.2 LDAD crontab ("ls1:/var/spool/cron/crontabs/ldad") will be automatically saved to:

   `/data/ldad/BACKUP42/ldad42.crontab`

3. **On the LS1**, the following files will be **automatically** saved and restored:

   /data/ldad/public/sysop.address
   /ldad/data/tmenu.mb
   /ldad/.environs
   /ldad/data/ldd.conf
   /ldad/data/lda.conf
   /ldad/data/siteId.txt
   /ldad/data/ROSAsiteInfo.txt
   /ldad/data/*Station.txt

1. Login the LS1 to verify that there is no LDAD application running with the "/usr/local" partition:

```
rlogin ls1

   fuser -c /usr/local
```

If the LS1 returns a list of process IDs (<pid>), use the "kill -9" command to kill each process:

```
kill -9 <pid>
```

Example: If the LS1 returns the result such as "/usr/local: **22487**mt **22490**mt", use the following commands to kill them:
kill -9 **22487**
kill -9 **22490**

IMPORTANT NOTE: Please be sure to stop all local software such as ldm, samba, etc. Disable any crons which start these applications (e.g., root LDAD). These applications and crons should be restart in step 5 of this section.

After each listed process is killed, enter the following command to return to the DS1:

```
exit
```

2. Run the "installLDAD43" script to install LDAD software: (Sample output and error information are shown in Appendix A, page A2-1.)

```
cd /cdrom

script -a /home/ncfuser/installLDAD43.out

./installLDAD43

./stopscript
```

NOTE: This step can take from 10 to 20 minutes. This will update your system to 4.3.1 LDAD.

NOTE: If the screen can not scroll, resize the window and this will fix the problem.

3. After the script ends, login the LS1 and restore the xyplex configuration file from the backed up tar file: (where MMDDYY is your R4.3.1 installation date, and **<siteid> is your site id in lower case, e.g. eax, lwx**)

```
rlogin ls1 -l ldad

cd /
```

tar -xvf /data/ldad/BACKUP42/LDAD42-MMDDYY.tar ldad/bin/xyplexConfig.<siteid>

```
exit
```
(Logout of LS1 and return to the DS1 as root)

NOTE: If the site does not save the "xyplexConfig.<siteid>" file in the "/ldad/bin" directory, it may or may not be saved in the tar file depending on where it resides. Please make sure that the "xyplexConfig.<siteid>" is saved in the system.

4. Review the script output file, "/home/ncfuser/installLDAD43.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

5. You can restart the "local application software" stopped in step 1, such as ldm, samba, etc. and enable any crons which start these applications (e.g., root LDAD).

If no errors occurred proceed to PART 3, otherwise contact the NCF.

PART 3: Release 4.3.1 Pre-install

Automatically Saved Crontab Files:

On the DS1, DS2, AS1, AS2, the following five crontab files will be automatically backed up to the "/var/spool/cron/contabsR4.2" directory of each own server:

/var/spool/cron/crontabs/informix
/var/spool/cron/crontabs/ifps
/var/spool/cron/crontabs/ldad
/var/spool/cron/crontabs/root
/var/spool/cron/crontabs/oper

1. Run the "preinstallR4.3" script: (Sample output and error information are shown in Appendix A, page A3-1.)

```
cd /cdrom

script –a /home/ncfuser/preinstall43.out

./preinstallR4.3

./stopscript
```

NOTE: This step can take from 40 to 60 minutes. This step will shut down all processes, clean up some old files, install new freeware, and create a new partition.

2. After the script ends, ensure that there are no stray processes on the DS1, DS2, AS1, AS2, and Workstations:

   A. Using the editor of your choice to create a "**/home/ncfuser/check_process**" script file which includes the following commands:

```
for i in ds1 ds2 as1 as2 $WORKSTATIONS
do
echo ---$i–
remsh $i "ps -ef | grep -v grep | grep fxa"
remsh $i "ps -ef | grep -v grep | grep oper"
remsh $i "ps -ef | grep -v grep | grep ifps"
remsh $i "ps -ef | grep -v grep | grep mta"
remsh $i "ps -ef | grep -v grep | grep lamp"
remsh $i "ps -ef | grep -v grep | grep ldad"
remsh $i "ps -ef | grep -v grep | grep awipsusr"
remsh $i "ps -ef | grep -v grep | grep textdemo"
done
```

   B. Run the "check_process" script by typing in the following:

```
cd /home/ncfuser
chmod 755 check_process
./check_process > check_process.out
```

NOTE: This will take approximately 45 seconds to complete.

C. View the "/home/ncfuser/check_process.out" file to ensure that there are no stray processes (which were not killed by the "preinstallR4.3" script run in step 1) running. If any stray process are detected, please use the "**`kill -9 <pid>`**" command to kill it (where <pid> is the process ID); see (3), below, for the exceptions.

(1) If, however, you see the following "oper" process running:
/awips/hydroapps/whfs/standard/bin/process_dpafiles /awips/h

then you should kill it by typing:
`/sbin/init.d/hdpdecode stop`

(2) If, you see the following "x400mta" process running (where <site> is your site ID in lower case):
x400mta -d/usr/x400mail <site>

then you should kill it by typing:
`/awips/ops/bin/x400mta_stop`

(3) On the workstation you are performing the R4.3.1 upgrade, the following acceptable processes may be running (You don't need to kill them.):
xclock -padding 8 -name localclock -fg black -bg lightgray
/usr/dt/bin/ttsession -s
dtwm
/usr/dt/bin/dtsession
xterm -title Dear_Old_state -n Dear_Old_State -fg green -b

3. Review the script output file, "/home/ncfuser/preinstall43.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

If no errors occurred proceed to PART 4, otherwise contact the NCF.

PART 4: Install Release 4.3.1 ADAPT Software

Automatically Saved and Restored IFPS Files:

The following six IFPS sub-directories on the DS1 will be **automatically** backed up to "/awips/adapt/ifps/backup/*" directories:

/awips/adapt/ifps/Xdefaults
/awips/adapt/ifps/bin
/awips/adapt/ifps/crontab
/awips/adapt/ifps/data
/awips/adapt/ifps/database
/awips/adapt/ifps/eval

If necessary, after the entire install is completed, the site can restore files from the backup directory.

1. Run the "installADAPTR4.3" script to install the ADAPT software: (Sample output and error information are shown in Appendix A, page A4-1.)

```
cd /cdrom

script  -a /home/ncfuser/installADAPT43.out

./installADAPTR4.3

./stopscript
```

NOTE: This step can take from 10 to 20 minutes. **The installation script will check the site type and automatically skip this ADAPT installation for the RFC sites.** The RFC sites should skip Step 2, and go directly to Step 3 to un-mount the CD.

NOTE: If the site has installed and used the "R4.3 version of Climate Program", you may see the similar error messages as shown below. Please ignore them.

ALTERing daily_climate table, adding wx_meth column before wx_1 column.
Calling Informix dbaccess. Messages follow:

ERROR IN ALTERING TABLE!! See file updatehmdb_99d.LOG

Creating new cli_asos_daily and cli_asos_monthly tables.
Calling Informix dbaccess. Messages follow:

ERRORS IN LOADING!! See file updatehmdb_99e.LOG

logout

2. After the script ends, fix the ownership for IFPS executables: **(for WFO sites only)**

```
cd /awips/adapt/ifps/bin
```

```
chown ifps:awips *
```

3. Un-mount the “ADAPT, LDAD, SITE SPECIFIC” CD:

```
cd /

fuser -k /cdrom

umount  /cdrom
```

Remove the current “ADAPT, LDAD, SITE SPECIFIC” CD from the CD-ROM drive on the DS1.

4. Review the script output file, “/home/ncfuser/installADAPT43.out”, to ensure that no unexpected errors (such as “Text file busy”, “fail”, “error”) were encountered during the installation.

If no errors occurred proceed to PART 5, otherwise contact the NCF.

PART 5: Install Release 4.3.1 FXA/System Software

Automatically Saved and Restored FXA Files:

The existing "/usr/x400mail/mtalist" file will be **automatically** saved as:

/usr/x400mail/mtalistR4.2.3

1. Edit the "/awips/fxa/data/localization/LLL/LLL-radarsInUse.txt" file **on the DS1** (where LLL is the site ID in capital letters, e.g. LWX, EAX) to change every dedicated radar flag (whose value equals to 1) to a dedicated/dial-out flag (whose value equals to 2). This flag change will allow your AWIPS to receive radar products from a dedicated radar either through a dedicated line or a dial line.

   A. Open the "/awips/fxa/data/localization/LLL/LLL-radarsInUse.txt" file on the DS1,
   B. Search the entry where the radar flag (in the final column) was set to 1 (dedicated radar),
   C. Change the flag value from 1 to 2 (dedicated/dial-out radar),
   D. Repeat step B and C for all dedicated radars.

   NOTE: The R4.3.1 localization process will validate the new configuration changes and push them out to all servers and workstations.

2. Mount the "WFOA, LAPS, PRC, OH Install" CD on the DS1 as follows:

   Insert the "WFOA, LAPS, PRC, OH Install" CD into the CD-ROM drive on the DS1 and run the following command:

   For K class server:
   ```
   mount  /dev/dsk/c3t2d0 /cdrom
   ```

   For D class server:
   ```
   mount /dev/dsk/c1t2d0 /cdrom
   ```

3. Run the "installR4.3" script to install the FXA/System software: (Sample output and error information are shown in Appendix A, page A5-1.)

   ```
   cd /cdrom

   script  -a /home/ncfuser/install43.out

   ./installR4.3

   ./stopscript
   ```

   NOTE: You may see some prompts for input from the user, ignore these messages. **The script will provide all needed input.** If the screen can not scroll during the install, resize the window and this will fix the problem.

   NOTE: This step can take from 2 to 4 hours depending on the number of workstations.

   NOTE: A full localization will take place on DS1. Localized results will be pushed out from the DS1 to: DS2, AS1,

AS2, and all workstations.

4. **After the "./installR4.3" script is completed**, power off and on both the CPSBN1 and CPSBN2 (Satellite Broadcast Processors 1 and 2) in the SBN rack. By doing so, both the CPSBN1 and CPSBN2 will be forced to reset and to re-start buffering the incoming satellite data.

5. **At this point, the system is up and operational except the OH and LDAD functions.** Start up D2D on all workstations and start using the system. The OH and LDAD functions will be available after PART 7 (Post Install) is completed.

   It should be noted, however, that until procedure 3 (Merge/Update of Internal LDAD Files) and procedure 4 Merge of WarnGen "preWWA(B) Files are executed in Part 8, sites may find that the LDAD and WarnGen functionality will operate with default configurations which may not be operationally acceptable to the sites.

6. Review the script output file, "/home/ncfuser/install43.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

   If no errors occurred proceed to PART 6, otherwise contact the NCF.

PART 6: Install Release 4.3.1 OH Software

Information on OH Files Automatically Saved and Restored:

1. The existing R4.2 baseline WHFS "oper" crontab file:
   /awips/hydroapps/whfs/local/bin/whfs_crontab

   will be **automatically** renamed as:
   /awips/hydroapps/whfs/local/bin/whfs_crontab.R42

NOTE: A. In AWIPS R4.3.1, two new baseline WHFS "oper" crontab files, "whfs_crontab_as2" and "whfs_crontab_ds1", will be delivered to replace the original baseline WHFS "oper" crontab file. The purpose is to split the same WHFS "oper" cron jobs across two machines. There are NO content changes in the new baseline WHFS "oper" crontab files.

B. At RFCs, this new baseline WHFS "oper" crontab files should have NO EFFECT since they typically do not use this WHFS "oper" crontab file.

C. At WFOs, if the users have customized the R4.2 WHFS "oper" crontab, then they should manually edit these two new baseline files to reflect their customization.

2. The existing metar configuration file:
   /awips/hydroapps/whfs/local/data/app/metar2shef/metar.cfg

   will be **automatically** copied to
   /awips/hydroapps/whfs/local/data/app/metar2shef/metar.cfg.R42

NOTE: A. In R4.3.1, a new baseline METAR-TO-SHEF Translator configuration file, "metar.cfg.trim", is being delivered which will trim the types of METAR variables being translated into SHEF to speed the data ingest process.

B. At RFCs, this new trimmed configuration file was delivered as an alternate file and should have NO EFFECT on the system since their existing configuration file was not changed. The RFCs could examine the new trimmed file to see if they want to use it.

C. At WFOs, this new trimmed configuration file will be installed for use for AWIPS R4.3.1. If WFO users find that the new trimmed file is too restrictive, they can reconcile the new file with the old saved file tagged as R42.

1. Run the "installOHR4.3" script to install OH software: (Sample output and error information are shown in Appendix A, page A6-1.)

```
cd /cdrom

script -a /home/ncfuser/installOH43.out

./installOHR4.3

./stopscript
```

NOTE: This step will take from 5 to 10 minutes for a WFO site, and from 15 to 25 minutes for a RFC site.

2. After the script ends, review the script output file, "/home/ncfuser/installOH43.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

If no errors occurred proceed to PART 7, otherwise contact the NCF.

PART 7: Release 4.3.1 Post Install

1. Run the post install script: (Sample output and error information are shown in Appendix A, page A7-1.)

```
cd /cdrom

script  -a /home/ncfuser/postinstall43.out

./postinstallR4.3

./stopscript
```

NOTE: You may see some prompts for input from the user, ignore these messages. **The script will provide all needed input.**

NOTE: This step will take from 1.5 to 3 hours depending on the number of large text conversions required by the database (complete product conversion list: **F6K, F6T, GLF, LCD, MIM, PSH, SFT, SPF, STD**), and the number of workstations required for initializing the software inventory.

2. After the script ends, verify that the HDP decoder is running **(for WFO site ONLY)**:

```
ps -ef | grep dpafiles
```

If the following sample output is **NOT** shown,

```
oper  4376    1  0  Oct  3  ?        6:14 /awips/hydroapps/whfs/standard/bin/process_dpafiles  /awips/h
```

please use the following command to manually re-start it:

```
/sbin/init.d/hdpdecode start
```

NOTE: **For RFCs**, the HDP decoder used at RFCs may be different from site to site. The RFC site should verify that their **"site-specific"** HDP decoder(s) is running. If the site-specific HDP decoder(s) is not running, please manually re-start it.

3. Work around for DR #5269, LDAD suaReceiver logs not breaking:

A. The LDAD cronjob on the LS does not break the "suaReceiver" logs. The problem is that the suaReceiver will continue to write to the same log directory (based on the date it was started) and will eventually not have a log to write to when the directory is purged. The work around is to add the following two lines to the "/ldad/bin/breakLogLDAD.ls" file on the LS:

```
kill -USR1 'UNIX95=XPG4 ps -o pid="" -C suaReceiver' >/dev/null 2>&1
sleep 1
```

B. To do this, please use the following instructions:

```
rlogin ls1

cd /ldad/bin
```

`vi breakLogLDAD.ls`

(1) You will see several pairs of "kill" and "sleep 1" command lines.
(2) Move the cursor to the beginning of line right after the last "sleep 1" entry.
(3) Insert the two command lines specified in "A" above.
(4) Save the changes and quit the vi editor.

`exit` (return to the DS1)

4. **At this point, the system is fully operational (including OH and LDAD functions).** Sites can start the Netscape System Monitoring Window to verify the following processes to ensure the system is fully operational:

   Data server ingest processes,
   Application server ingest processes,
   LDAD processes, and
   AWIPS data status

   NOTE: The Netscape Window may take 10 minutes or more to get updated. If after a reasonable time you see a problem, call the NCF.

   NOTE: The sites can remove all files and subdirectories (except the site-developed files) from the "/awips/dev" directory on the DS1 (which is a NFS mount directory). The freed-up disk space in "/awips/dev" can be used to support local development.

5. Review the script output file, "/home/ncfuser/postinstall43.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

   If no errors occurred proceed to Part 8, otherwise contact the NCF.

PART 8: Release 4.3.1 After-Install Setup Procedures

The following Installation Setup Procedures **MUST** all be completed as part of the R4.3.1 upgrade.

NOTE: **All these steps are run as "root" unless noted otherwise.**

1. Create Radar Mosaics:

NOTE: This is done at WFO and RFC sites
(Sample output and error information are shown in Appendix A, page A8-1.)

Please log out of all D2D sessions on Workstation 1 before proceeding!!!

```
cd /cdrom

script –a /home/ncfuser/CreateRadarMosaics.out

./CreateRadarMosaics

./stopscript
```

NOTE: You will be prompted.... if you want to create the mosaics, enter "**y**" to continue or enter "**n**" to exit.

If you answered **y**, the creating process begins. **You can use the system, but You can NOT use Workstation 1 until this script finishes.** The script will first create radar mosaics on Workstation 1 (WS1) based on the radars defined in "radarsOnMenu.txt". It can take up to 10 minutes per radar. Results will then be pushed out from Workstation 1 to other Workstations via the DS1.

If you answered "**n**", the creating process will exit. You can complete them at a convenience time. Please note that although the radar mosaics are not created at installation, the system will create the associated radar mosaics on the fly for the radar products when they are requested at the first time after the installation. The system will save the created radar mosaics for the later uses without creating them again. The estimated creation time is 30 to 40 seconds per radar product. **However, this may slow you down in a major weather event in which many radar products are being used.**

NOTE: If you type "y", this step could take from 1 to 2 hours or more depending on the number of radars in use. So run the script and proceed with any other post-install steps.

2. Review the "HWR NWR Products" and "Climate Products" Setup.

NOTE: This is done at WFO sites, only

Verify that: (1) their new 4.3.1 version of setup features are in place, and (2) the old climate products have been successfully recognized by 4.3.1 version of software. To accomplish these, do the following:

A. For "HWR NWR" products, use the following verification procedures:

(1) On a Text Workstation, click the left mouse button to a blank screen area to get the "*Root Menu*" window,

(2) Select "Background WFO Apps" to get "*Background WFO Applications*" menu,

(3) Select "Hourly Weather Roundup" to get "*Hourly Weather Roundup*" menu ,

(4) Select "HWR NWR Setup" to get "Hourly Weather Roundup Editor" window,

(5) On the right column, verify that a new "dew point" setup is available and is set to "-150" initially. This is a new 4.3.1 setup feature. Sites can change it to whatever threshold they desire.

(6) Close and exit these windows.

B. For "Climate" products, use the following verification procedures:

(1) On a Text Workstation, click the left mouse button to a blank screen area to get the "*Root Menu*" window,

(2) Select "Background WFO Apps" to get "*Background WFO Applications*" menu,

(3) Select "Climate Reports" to get "*Climate Master*" menu (this takes a few seconds to occur),

(4) Select "Set Up/Edit Climate Products" and click OK button to get "*Report Format*" window (this takes a few seconds).
Perform step (5), (6), and (7) to verify that old products have been recognized by new software:

(5) On the upper right corner, verify that the "Select Stations for Product" column is not blank, and contains some valid Station IDs such as KPIT, KWBC, etc.

(6) Select a valid Station ID, and click the "*Edit Reporting Periods*" button.

(7) In "Reporting Periods" window, verify that all the SNOW, HDD (Heating Degrees Data), and CDD (Cool Degrees Data) fields have valid Start/End setup for old products. Next, click the "*cancel*" or "*ok*" button, as appropriate.

(8) If you want to use the system to create "**Intermediate Climate**" products, you should set those up at this time as follows:

A. Under "Select Stations for Product" column, select a station.

B. Under "Report Type" column, select "*Daily Intermediate*"

C. Under "Report Configuration" column, fill in Product ID, LAC (listening area code) etc.

D. Under "Weather Elements" choose appropriate elements.

E. From the menu bar, click "File" ...then "Save products" to save your setup.

3. Merge/Update of Internal LDAD Files:

NOTE: Done at both WFO and RFCs.

After completing the R4.3.1 install, the site may need to merge/update the following internal LDAD files:

A. On the DS1, merge the "/awips/fxa/ldad/data/LDADinfo.txt" file:

(1) Open two telnet windows

(2) On both windows, login to the DS1 as "root":
```
rlogin ds1 -l root
```

(3) On both windows, become the ldad user:
```
su - ldad
```

(4) On one window, open the R4.2 version of LDADinfo.txt file:
```
vi  /data/fxa/LDAD_TEMP42/data/LDADinfo.txt
```

(5) On the other window, open the new R4.3.1 version of LDADinfo.txt file:
```
vi  /awips/fxa/ldad/data/LDADinfo.txt
```

(6) Compare the R4.2 LDADinfo.txt to the R4.3.1 LDADinfo.txt files. Take any lines that you have added or modified in the "R4.2 LDADinfo.txt" file (e.g., those changes you made since the R4.2 upgrade) and put them in the new R4.3.1 LDADinfo.txt file. In addition, at the end of each added or modified line, note and document any "new" pre-processor listed. (Note: If this preprocessor was already listed in the R4.3.1 file, you do not need to document it.) You will need this "new" preprocessor information to restore the required pre-processors in Step B, below.

(7) Save the new R4.3.1 LDADinfo.txt file, and close both telnet windows.

B. **On the DS1 (then DS2)**, restore all the pre-processors that are needed for the new/modified lines added to the new R4.3.1 LDADinfo.txt as discussed above:

(1) Open a telnet window, login to the DS1 as "root":
```
rlogin ds1 -l root
```

(2) Become the ldad user:
```
su - ldad
```

(3) By looking at the last column of the newly merged LDADinfo.txt file, identify all the pre-processors that need to be restored. Next, restore them on both DS1 and DS2 (one preprocessor at a time) by entering the following (where <preprocessor> is an identified preprocessor name):

```
cd /data/fxa/ldad/bin

cp /data/fxa/LDAD_TEMP42/bin/<preprocessor> .

chmod 755 /awips/fxa/ldad/bin/<preprocessor>

rcp -p <preprocessor> ds2:/awips/fxa/ldad/bin
```

(4) After all the identified pre-processors are restored, close the telnet window.

C. The R4.2 and R4.3.1 versions of the following files need to be compared for changes. The R4.2 differences found in these files **on DS1** need to be merged with the R4.3.1 version of the files **...if the file previously** existed in R4.2 and was modified since your R4.2 upgrade. Use the "diff" command to ensure you don't miss any changes.

ds1:/awips/fxa/ldad/data/LdadPatterns.txt
ds1:/awips/fxa/ldad/data/ShefEncoder_PE.tbl
ds1:/awips/fxa/ldad/data/ShefEncoder_PE2Prod.tbl
ds1:/awips/fxa/ldad/data/ShefEncoder_Units.tbl

Please edit the new R4.3.1 baseline file and merge the modified changes by using the associated R4.2 files that were previously saved in the "/data/fxa/LDAD_TEMP42/data" directory (see the save and restore information on page 2-1).

4. Merge of WarnGen "preWWA(B)" Files:

NOTE: This is done at WFO sites only.

A. Once the installation is complete, it is important to create "override" files in the "/data/fxa/customFiles" directory to mimic the default functionality for each product that you wish to modify.

For example, suppose that you expect to modify your Severe Thunderstorm Warning template (wwa_svr.preWWA"). To get set up for that, **log in one workstation as fxa user** (if the "CreateRadarMosaics" script is currently running, please do not use workstation 1), and type the following commands: (where <workstation> is the selected workstation e.g. ws2, ws3; and LLL is your siteID in capital e.g. LWX, EAX)

```
rlogin <workstation> -l root
su - fxa
cd  /data/fxa/nationalData
cp  wwa_svr.preWWA  /data/fxa/customFiles/LLL-wwa_svr.preWWA
```

NOTE: The default pre-template for this product is now wwa_svr.preWWA, not wwa_svr.preWWAB. One change in "WarnGen" for the R4.3.1 build is that it will no longer support the option of templates in the old SRWARN format, so the system will no longer make use of "wwa*.preWWAB" files. All WarnGen pre-templates will be "wwa*.preWWA" files.

B. Once you have done "Part A" above for each product you expect to modify, rerun the "-wwa" task by typing following commands:

```
cd /awips/fxa/data/localization/scripts
./mainscript.csh  -wwa
```

This task will make sure things go smoothly with the override files in place. You should notice a major improvement in the amount of time that "-wwa" task takes to run. Next, you should generate a few products with the new default templates to find out if you need to modify any of them. To edit a template, see "Part C" below.

It should be noted that with the new templates, you should notice improved default wording for a single storm versus a line of storms and an improved pathcast.

C. Once you know what changes to make to each product template:

1. Edit the appropriate *.wwaProd files in the "/awips/fxa/data/localizationDataSets/LLL". Refer to the old modified templates you saved in either the "/data/fxa/nationalData" or "/data/fxa/customFiles" directory prior to your R4.3.1 install **(see Step 7 of Pre-installation Requirements on page 3)** for the syntax of the desired changes.

2. After the template changes have been made, verify/test those changes in WarnGen without restarting WarnGen or rerunning a localization. To do this, click on a different WarnGen product type then click back to the product type just edited. If you don't like what you see, repeat the editing and verifying process.

3. Once you have finalized the modifications, fold them into the appropriate "/data/fxa/customFiles/LLL-wwa_*.preWWA" files,

   Ensure steps 1-3 are performed for each product template you wish to change.

4. When you done, rerun the following to incorporate the new changes:

   ```
   cd /awips/fxa/data/localization/scripts
   ./mainscript.csh  -wwa
   ```

5. After localization completes, stop D2D (if it is running) and restart it.

6. Next, bring up WarnGen and verify that all of your changes were incorporated.

D. Log out of the workstation as fxa.

E. On each of the other workstations, **as fxa**, do the following:

```
rlogin <workstation> -l root
su - fxa
cd /awips/fxa/data/localization/scripts
./mainscript.csh  -wwa
```

After localization completes, stop D2D (if it is running) and restart it.

NOTE: We have attempted to preserve backward compatibility, but it is not guaranteed. At a minimum, if you copy old 4.2 templates directly into your 4.3.1 system, you will lose many of the improvements for 4.3.1. It is also possible that certain things will not work the way you expect. Thus it is highly recommended that you fold your changes into the default system.

NOTE: **Do NOT use the UNIX "chmod" command to change the access mode of files in the "/awips/fxa/data/localizationDataSets/LLL" directory in order to preserve manual changes.**

There have already been incidents in which this has caused major problems distributing new shape files. If you need changes to the parts of states entries, the proper course of action is to get this information back to Ira Graffman at APO (301-713-1240) and he will put this information into the county shape file. Installing that new shape file and then rerunning the "-wwa" localization task will incorporate this information in the correct manner. When running the "-wwa" localization task with new shape files, it will not run as quickly as when one just changes pre-template files.

5. Disable Ping to LDAD Firewall and SMTP on the LDAD Firewall

NOTE: This is done at WFO and RFC sites.
NOTE: This procedure should probably be done by the ESA.

You will disable NCF's ability to ping the LDAD firewall and disable SMTP on the firewall. If your site has an issue with disabling SMTP, be sure to discuss this with you AWIPS regional focal point and if they concur skip (part 0, step 9).

Disabling the NCF's ability to ping the LDAD firewall begins at A

A. Change the **xyplex system console** Terminal Mode from HP to EM100. To do this, do the following:

Press <User System> key
Press <F8> "config keys"
Press <F5> "terminal configuration"
Press <tab> until the "TermMode" is highlighted
Press <F2> until the TermMode is set to EM100
Press <F1> to save the settings

From the **xyplex System Console** go to the "AWIPS Main Menu", connect to the firewall and login as root by doing the following:

Enter "**q**"
Press **<Enter>** key — Note: This gives "xyplex>" prompt
Enter "**Connect xyplex1:5800**" (i.e. xyplex<one>:5800)
Press **<Enter>** key
Login as root
Enter the password

B. Save the existing configuration file by typing:

```
cd /usr/local/etc

cp netperm-table netperm-table.R423
```

C. Edit firewall configuration file using the vi editor:

```
vi /usr/local/etc/netperm-table
```

D. Comment out the "authenIP" line with a "#" as shown below:

> # ADDED LINE FOR ITOPS
> # authenIP: permit-forward -if * -proto ICMP:ECHO|ECHOREPLY -srcaddr 0.0.0.0:0.0.0.0 -srcport * -dstaddr 0.0.0.0:0.0.0.0 -dstport *

NOTE: The "authenIP ....dstport *" entry is a single line

E. Save edits and exit vi editor.

F Confirm that the configuration file edits in step D are correct as follows:

```
grep ECHOREPLY  /usr/local/etc/netperm-table
```

Results should show:
 # authenIP: permit-forward -if .....

NOTE: Steps G-L are needed to disable the SMTP on the Firewall

G. To disable the SMTP on the firewall you need to perform the following steps. At the prompt, enter

```
gauntlet-admin
```

This will start the gauntlet admin tool.

H. Use the <down arrow> to get to "Basic System Configuration" and press <enter>.

I. Use <down arrow> to get to the "Proxy Configuration" menu and press <enter>.

J. **Tab** to "Electronic Mail" and press <down arrow> so the line shows "Electronic Mail: off"

K. **Tab** to "next page." Next, use <down arrow> to "Return to Previous Menu" and press <enter>

L. **Tab** to "Return to Previous Menu" and press <enter>

M. **Tab** to "Update Configuration Menus" and press <enter>

N. With "Quit and Update Configuration Database" highlighted press <enter>

O. Answer 'y' to "Rebuild system configuration files?"
After about a minute "press enter to resume".

P. Once you get back to a prompt, enter the following:

```
/etc/scripts/updt_table
```

Note: This allows remsh which is needed for LDAD.

Q. Reboot firewall by typing:

```
reboot
```

R. Restore the **xyplex System Console** terminal back to normal by doing the following:

Press **<Break>** key Note: This gives the “xyplex>” prompt
Enter **“disconnect all”**
Enter **“logout”**
After a few seconds, press **<Enter>** key and then enter a user name.
Enter "**t**" to return to the root "AWIPS Main Menu"

S. Change the **xyplex System Console** Terminal Mode from EM100 to HP by doing the following:

Press <User System> key
Press <F8> "config keys"
Press <F5> "terminal config"
Press <tab> until the "TermMode" is highlighted
Press <F2> until the TermMode is set to HP
Press <F1> to save the settings

6. Now that the R4.3.1 installation and upgrade are done.

NOTE: Done at both WFO and RFCs.

Un-mount the “FOA, PRC, LAPS, OH” CD:

```
cd /
fuser -k /cdrom
umount  /cdrom
```

Remove the current “FOA, PRC, LAPS, OH” CD from the CD-ROM drive on the DS1.